shield, and at least a portion of the introducing portion of the detecting electrode is shielded by the shield electrode.

As noted in the rejection, the Hiroshima et al. patent is an impedance-to-voltage converter that includes, at least in Claim 17, being connected to an electrostatic capacitive target. There is no claim to the specific electrode structure and the shield electrode. The rejection then cites Poduje et al. for the capacitive structure having an introducer-detecting electrode 20 and a shield electrode 22. The capacitive probe 18 in Poduje et al. has a central capacitive plate 20, which corresponds to the detecting portion of the present claimed detecting electrode. Poduje et al. does not disclose nor suggest the introducing portion of the detecting electrode much less that the shield electrode shields the introducing portion of the detecting electrode. Thus, the combination of the two references would not produce the presently claimed invention nor would it be obvious to modify the teachings to produce the presently claimed invention. This is true, even if it was obvious to combine the two references.

With respect to the 35 U.S.C. § 103 rejection, the same arguments apply. However, it should also be noted that Hiroshima et al. US Patent 6,335,642 is not a reference under § 102(e). The noted § 102(e) date is September 22, 1999. The priority claim in the present application is July 22, 1999. Thus, Hiroshima et al. is not a reference under § 102(e) and, therefore, § 103.

Based on the above arguments, Applicant requests reconsideration of the rejections and the passage of the present application to issue.

It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and shortages in other fees be charged, or any overpayment in fees be credited, to the Account of Barnes & Thornburg, Deposit Account No. 02-1010 (18940/36543).

Respectfully submitted,

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Enclosure
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CLAIM SUMMARY DOCUMENT

1. (Currently Amended): An electrostatic capacitance sensor, comprising

an electrostatic capacitance detector,

an operational amplifier in which a feedback impedance circuit is connected between an output terminal and an inverse input terminal of said operational amplifier,

a signal line connected between said inverse input terminal of said operational amplifier and said electrostatic capacitance detector,

an alternating-current signal generator connected to a non-inverse input terminal of said operational amplifier, and

a shield for shielding at least a portion of said signal line, said shield being connected to said non-inverse input terminal of said operational amplifier and said alternating-current signal generator, wherein

said electrostatic capacitance detector comprises a detecting electrode and a shield electrode,

said detecting electrode comprises a ~~detector-detecting electrode~~detecting portion for detecting an object to be detected and an ~~electrode introducer-detecting electrode~~introducing portion for introducing an electrode to said ~~detector-detecting electrode~~detecting portion,

said shield electrode is connected to said shield, and

at least a portion of said ~~electrode introducer-detecting~~introducing portion of said detecting electrode is shielded by said shield electrode.

2. (Currently Amended): An electrostatic capacitance sensor as recited in claim 1, wherein

said detecting electrode and said shield electrode are flat plate-shaped electrodes and laminated such that they become layers different from each other, and

said detecting electrode and said shield electrode are provided such that at least a portion of said ~~electrode introducer-detecting~~introducing portion of said detecting electrode and said shield electrode are superposed as viewed from the laminated direction of said detecting electrode and said shield electrode.

3. (Currently Amended): An electrostatic capacitance sensor as recited in claim 1, wherein

said ~~detector-detecting~~detecting portion of said detecting electrode and said ~~electrode introducer-detecting~~introducing portion of said detecting electrode are shielded by said shield electrode.

4. (Currently Amended): An electrostatic capacitance sensor as recited in claim 2, wherein

said electrostatic capacitance detector further comprises a second shield electrode,

said second shield electrode is a flat plate-shaped electrode and laminated with said detecting electrode opposite from said shield electrode with respect to said detecting electrode, and

said detecting electrode, said shield electrode and said second shield electrode are provided such that at least a portion of said ~~electrode-introducer-detecting~~introducing portion of said detecting electrode and said shield electrode are superposed, said ~~detector-detecting~~detecting portion of said detecting electrode and said shield electrode are not superposed, and said ~~detector-detecting~~detecting portion of said detecting electrode~~, said~~ and said introducing portion of said detecting electrode ~~introducer-detecting electrode~~ are superposed above said second shield electrode as viewed from a laminated direction of said detecting electrode and said shield electrode.

5. (Currently Amended): An electrostatic capacitance sensor as recited in claim 1, wherein

said ~~detector-detecting~~detecting portion of said detecting electrode is a flat plate-shaped electrode, and said detecting electrode and said shield electrode are provided such that at least a portion of said shield electrode is located on a side of said ~~detector-detecting~~detecting portion of said detecting electrode as viewed from a direction perpendicular to a main face of said flat plate-shaped electrode.

6. (Currently Amended): An electrostatic capacitance sensor as recited in claim 5, wherein

said detecting electrode and said shield electrode are provided such that said shield electrode is located around said ~~detector-detecting~~detecting portion of said detecting electrode and said ~~electrode introducer-detecting~~introducing portion of said detecting electrode as viewed from the direction perpendicular to the main face of said flat plate-~~like~~ shaped electrode.

7. (Original): An electrostatic capacitance sensor as recited in claim 5, wherein said detecting electrode and said shield electrode are provided in the same layer.

8. (Previously Presented): An electrostatic capacitance sensor as recited in claim 1, wherein

when said electrostatic capacitance detector comprises said detecting electrode and said shield electrode, said detecting electrode and said shield electrode are integrally formed with an insulator capable of mounting an object to be mounted, and

when said electrostatic capacitance detector comprises said detecting electrode, said shield electrode and a second shield electrode, said detecting electrode, said shield electrode and said second shield electrode are integrally formed with an insulator capable of mounting the object to be mounted.

9. (Previously Presented): An electrostatic capacitance sensor as recited in claim 1, wherein

when said electrostatic capacitance detector comprises said detecting electrode and said shield electrode, said detecting electrode and said shield electrode are covered with an insulating layer, and

when said electrostatic capacitance detector comprises said detecting electrode, said shield electrode and a second shield electrode, said detecting electrode, said shield electrode and said second shield electrode are covered with an insulating layer.

10. (Withdrawn): An object mounting body for mounting an object to be mounted, comprising a detecting electrode and a shield electrode, wherein

said detecting electrode comprises a detector-detecting electrode for detecting an object to be detected and an electrode introducer-detecting electrode for introducing an electrode to said detector-detecting electrode,

said detecting electrode and said shield electrode are flat plate-like electrodes and laminated such that they become layers different from each other, and

said detecting electrode and said shield electrode are provided such that said detecting electrode and said shield electrode are not superposed, and at least a portion of said electrode introducer-detecting electrode and said shield electrode are superposed as viewed from the laminated direction of said detecting electrode and said shield electrode.

11. (Withdrawn): An electrostatic capacitance sensor component, comprising an electrostatic capacitance detector having a detecting electrode and a first shield electrode, and a flat plate-shaped second shield electrode laminated with said detecting electrode such that said second shield electrode and said detecting electrode become layers different from each other, wherein

said detecting electrode comprises a detector-detecting electrode for detecting an object to be detected and an electrode introducer-detecting electrode for introducing an electrode to said detector-detecting electrode,

said detector-detecting electrode is a flat plate-shaped electrode, said detecting electrode and said first shield electrode are provided such that at least a portion of said first shield electrode is located on a side of said detector-detecting electrode as viewed from a direction perpendicular to a main face of said flat plate-like electrode, and

said detecting electrode and said second shield electrode are provided such that said detecting electrode and said second shield electrode are not superposed, and at least a portion of said electrode introducer-detecting electrode and said second shield electrode are superposed as viewed from a laminated direction.

12. (Withdrawn): An electrostatic capacitance sensor component comprising an electrostatic capacitance detector having a detecting electrode and a first shield electrode, and a flat plate-shaped second shield electrode laminated with said detecting electrode such that said second shield electrode and said detecting electrode become layers different from each other, wherein

said detecting electrode comprises a detector-detecting electrode for detecting an object to be detected and an electrode introducer-detecting electrode for introducing an electrode to said detector-detecting electrode,

said detector-detecting electrode is a flat plate-shaped electrode, said detecting electrode and said first shield electrode are provided such that at least a portion of said first shield electrode is located on a side of said detector-detecting electrode as viewed from a direction perpendicular to a main face of said flat plate-like electrode, and

said detecting electrode and said second shield electrode are provided such that said detector-detecting electrode and said electrode introducer-detecting electrode are superposed above said second shield electrode as viewed from the laminated direction of said detecting electrode and said shield electrode.

13. (Previously Presented and Withdrawn): An electrostatic capacitance sensor component as recited in claim 11, wherein

said electrostatic capacitance detector further comprises a third shield electrode,

said third shield electrode is a flat plate-shaped electrode and laminated with said detecting electrode opposite from said shield electrode with respect to said detecting electrode, and

said detecting electrode and said third shield electrode are provided such that said detector-detecting electrode and said electrode introducer-detecting electrode are superposed above said second shield electrode as viewed from a laminated direction of said detecting electrode and said shield electrode.

14. (Withdrawn): An object mounting apparatus, comprising

an object mounting body for mounting an object,

at least two object detecting electrodes mounted to said object mounting body, and

at least two detecting circuits respectively connected to said at least two object detecting electrodes, wherein

each of said two detecting circuits comprises

an operational amplifier in which a feedback impedance circuit is connected between an output terminal and an inverse input terminal of said operational amplifier,

a signal line connected between said inverse input terminal of said operational amplifier and one of said at least two object detecting electrodes,

an alternating-current signal generator connected to a non-inverse input terminal of said operational amplifier, and

a shield for shielding at least a portion of said signal line, said shield being connected to said non-inverse input terminal of said operational amplifier and said alternating-current signal generator.

15. (Withdrawn): An object mounting apparatus, comprising

an object mounting body for mounting an object,

at least two object detecting electrodes mounted to said object mounting body,

an operational amplifier in which a feedback impedance circuit is connected between an output terminal and an inverse input terminal of said operational amplifier,

a signal line connected to said inverse input terminal of said operational amplifier,

an alternating-current signal generator connected to a non-inverse input terminal of said operational amplifier,

a shield for shielding at least a portion of said signal line, said shield being connected to said non-inverse input terminal of said operational amplifier and said alternating-current signal generator, and

a switch for switching connections between said signal line and said at least two object detecting electrodes and capable of connecting said signal line to any one of said at least two object detecting electrodes.

16. (Withdrawn): An object mounting apparatus as recited in claim 14, further comprising at least two shield electrodes mounted to said object mounting body, wherein said at least two shield electrodes respectively shield at least portions of said at least two object detecting electrodes and said at least two shield electrodes are respectively connected to said shields of said at least two detecting circuits.

17. (Withdrawn): An object mounting apparatus as recited in claim 15, further comprising at least two shield electrodes mounted to said object mounting body, wherein said at least two shield electrodes respectively shield at least portions of said at least two object detecting electrodes and said at least two shield electrodes are respectively connected to said shields or connected to said shields through said switch.

18. (Withdrawn): An object mounting apparatus as recited in claim 16, wherein each of said at least two object detecting electrodes comprises a detector-detecting electrode for detecting an objected to be detected, and

said detector-detecting electrode is shielded by said shield electrode in at least one direction.

19. (Withdrawn): An object mounting apparatus as recited in claim 14, wherein said object is a flat plate-shaped object, and

said detector-detecting electrodes of said at least two object detecting electrodes are disposed such that when said object is mounted on said object mounting body, an arrangement of said detector-detecting electrodes is in parallel to a bottom face of said object.

20. (Withdrawn): An object mounting apparatus as recited in claim 14, wherein said object is a flat plate-shaped object, and

when said object is mounted on said object mounting body, if a surface of projection obtained by projecting said object on said object mounting body is divided into at least two sub-regions such that areas of the sub-regions are equal to each other, said at least two object detecting electrodes are disposed on positions respectively corresponding to said at least two sub-regions.

21. (Withdrawn): A wafer transfer apparatus

said wafer transfer apparatus comprises an object mounting apparatus as recited in claim 14, wherein said object is a semiconductor wafer.

22. (Withdrawn): A substrate transfer apparatus for manufacturing a liquid crystal display device, wherein

said substrate transfer apparatus comprises an object mounting apparatus as recited in claim 14, and said object is a substrate for manufacturing a liquid crystal display device.

23. (Original): A semiconductor manufacturing apparatus comprising a electrostatic capacitance sensor as recited in claim 1.

24. (Original): A liquid crystal display device manufacturing apparatus comprising a electrostatic capacitance sensor as recited in claim 1.

25. (Previously Presented): An electrostatic capacitance detector as recited in claim 1, wherein the shield electrode is three shield electrodes, a first shield electrode is in a plane with the detecting electrode, a second shield electrode is above and a third shield electrode is below the plane of the detecting electrode.